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## 7.0 SHOP CRANES

### 7.1 SCOPE

This section applies to self-contained hydraulic and pneumatic-hydraulic shop cranes characterized by a pair of laterally spaced legs, an upright mast, a pivoting boom with a boom extension and hook, and a hydraulic unit. This hydraulic unit moves the boom up and down at a pivot point for the purpose of raising, removing, transporting in the lowered position, and replacing automotive engines, transmissions and other components (see Fig. 7-1). Shop cranes have a capacity of 4 tons (8,000 pounds) or less.

### 7.2 OPERATOR QUALIFICATIONS

No formal training is required to operate shop cranes. Operators shall study, understand, and follow operating instructions provided by the shop crane manufacturer.

Responsible managers shall ensure that operating instructions are readily available.

### 7.3 CONDUCT OF OPERATORS

There is no substitute for good sense and a "safety first" attitude. Failure to heed warnings posted on the shop crane may result in loss of load, damage to the shop crane, personal injury, or property damage.

Rules for operators follow:

1. The operator shall not engage in any practice that will divert attention while actually engaged in operating the shop crane.
2. The operator shall not operate equipment when physically or mentally unfit.
3. The operator shall not load the shop crane beyond its rated capacity (except for proof tests) for each specified boom and leg position.
4. Before moving the load, the operator shall lower the boom and the load to the lowest possible point.
5. The operator shall use the shop cranes only on hard, level surfaces capable of sustaining the load.

<p><b>CAUTION:</b> Use on other than hard, level surfaces can result in shop crane instability and possible loss of load.</p>
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6. The operator shall ensure that the load does not drop suddenly or swing during transportation.
7. Whenever there is doubt as to safety, the operator shall consult with the responsible

management before operating the shop crane.

8. If necessary to leave a suspended load unattended, the immediate area (about 30 inches) around the shop crane should be posted or barricaded to restrict entry of unauthorized personnel.
9. If there is a tag, sign, or lock on the shop crane, the operator shall not operate the crane until the tag, sign, or lock is removed by the person who placed it there or by an authorized person. Facility-specific lock and tag procedures shall be strictly followed.
10. If adjustments or repairs are necessary, or any defects are known, the operator shall report the potential problem promptly to responsible management.

## **7.4 EQUIPMENT REQUIREMENTS**

### **7.4.1 Operating Controls**

Operating controls shall be readily visible and accessible to the operator and shall not subject the operator to pinch points, sharp edges, or snagging hazards. The release system shall require intentional positive action by the operator for release to prevent accidental lowering.

### **7.4.2 Hook-Throat Latches**

Latch-equipped hooks shall be used for all operations unless the application makes using the latch impractical, unnecessary, or unsafe. The absence of a hook-throat latch is not indiscriminately allowed (see para 5.3).

## **7.5 MARKING AND IDENTIFICATION**

### **7.5.1 Rated Load Marking**

Shop cranes shall have the rated capacity for each specified boom and leg position marked in a prominent location.

### **7.5.2 Identification**

Each shop crane shall include identification or identifying marks of the original manufacturer. The manufacturer shall be able to identify the date of manufacture of each shop crane

### 7.5.3 Warning Statement

A warning statement shall be affixed to the shop crane by the manufacturer in a location readily visible to the operator. Fig. 7-2 shows an example of a warning. The warning shall contain the following:

1. The word "WARNING" as a heading
2. A statement of the hazard related to the warning
3. A statement of what to do to avoid or reduce the hazard
4. A statement to warn the operator to study, understand, and follow the instructions.

## 7.6 INSPECTION

Before operating the crane on each shift, the operator shall perform the following operations:

1. Visually inspect for leaks and damaged, loose, or missing parts.
2. Ensure that hooks and hook-throat latches show no noticeable damage, wear, or deformation.
3. Perform other inspections in accordance with the manufacturer's operating instructions.
4. In addition to pre-use inspections, a shop crane shall be inspected immediately if it is believed to have been subjected to abnormal load or shock.

**NOTE:** Pre-use inspection documentation is not required. No periodic or other scheduled inspection program is required.

## 7.7 MAINTENANCE

The shop crane shall be maintained in accordance with the manufacturer's instructions. Modifications to shop cranes shall be approved by the manufacturer or a qualified engineer.

## 7.8 TESTING

Shop cranes built to design specifications are proof tested by the manufacturer in accordance with ASME PALD-1993, *Portable Automotive Lifting Devices*, Chapter 12, "Shop Cranes." Routine or scheduled tests by the contractor are not required. After major repair or modification, the responsible maintenance or engineering organization shall determine if testing is required.

Figure 7-1. Typical Shop Cranes.

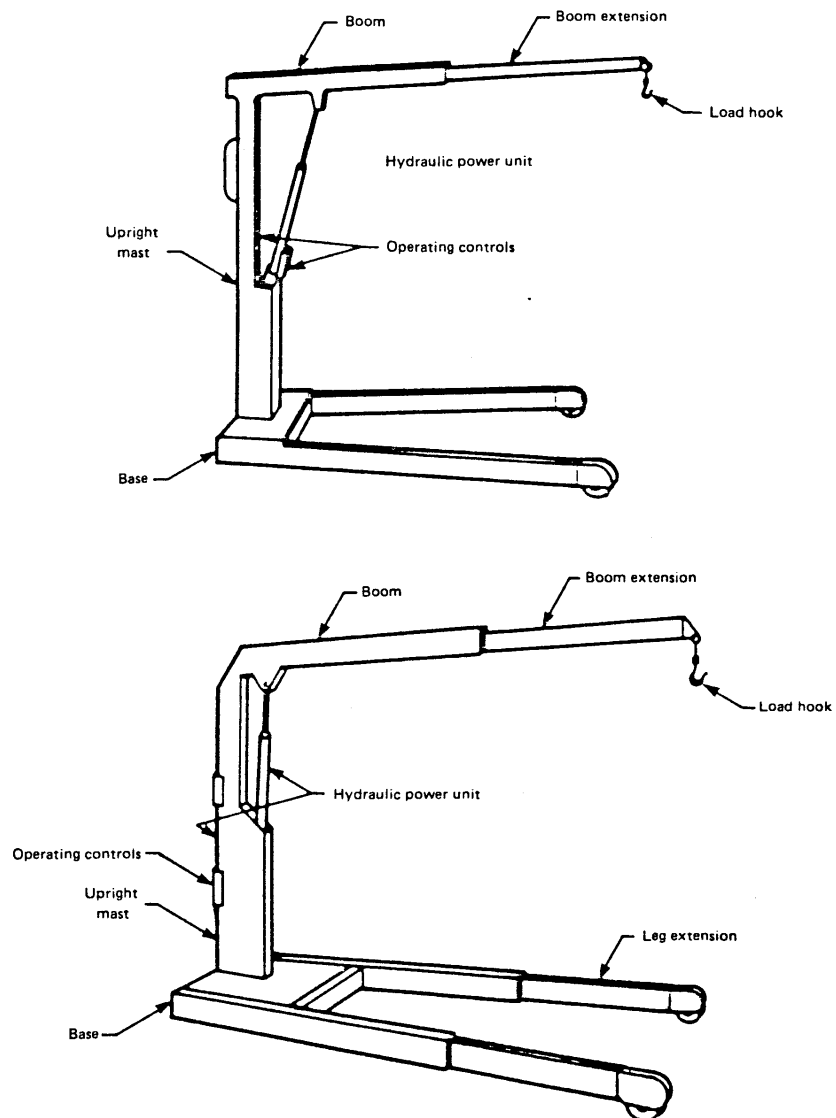


Figure 7-2. Example of a Required Shop Crane Warning.

**WARNING: DO NOT LOAD THIS SHOP CRANE BEYOND ITS RATED CAPACITY FOR EACH SPECIFIED BOOM AND LEG POSITION. OVERLOADING CAN CAUSE DAMAGE TO OR FAILURE OF THE PRODUCT. BEFORE MOVING THE LOAD, LOWER THE BOOM AND LOAD TO THE LOWEST POSSIBLE POINT. DO NOT ALLOW LOAD TO SWING OR DROP VIOLENTLY WHILE LOWERING OR MOVING. MAKE SURE THE BOOM IS LOWERED COMPLETELY BEFORE ADDING OIL TO UNIT RESERVOIR. THIS SHOP CRANE IS DESIGNED FOR USE ONLY ON HARD, LEVEL SURFACES CAPABLE OF SUSTAINING THE LOAD. FAILURE TO HEED THESE WARNINGS MAY RESULT IN LOSS OF LOAD, DAMAGE TO THE SHOP CRANE, AND/OR FAILURE RESULTING IN PERSONNEL INJURY AND/OR PROPERTY DAMAGE. STUDY, UNDERSTAND, AND FOLLOW ALL INSTRUCTIONS.**